



STANDARD STRAIGHT BAR

BAR SIZE	* LOCATION CATEGORY			3 Times Bar Diameter	6 Times Bar Diameter	c/c Spacing
	A	B	C			
#4	1'-9"	1'-6"	1'-3"	1 1/2"	3"	3 1/2"
#5	2'-2"	1'-11"	1'-6"	1 7/8"	3 3/4"	4 3/8"
#6	2'-7"	2'-3"	1'-10"	2 1/4"	4 1/2"	5 1/4"
#7	3'-1"	2'-9"	2'-2"	2 5/8"	5 1/4"	6 1/8"
#8	4'-1"	3'-7"	2'-10"	3"	6"	7"
#9	5'-1"	4'-6"	3'-7"	3 3/8"	6 3/4"	7 7/8"
#10	6'-6"	5'-9"	4'-7"	3 3/4"	7 5/8"	8 1/8"
#11	7'-11"	7'-0"	5'-7"	4 1/4"	8 1/2"	9 1/8"

* LOCATION CATEGORY:

A- Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in: footings, pier caps, etc.

B- All bars not in Category A spaced less than 6" apart.

C- All bars not in Category A spaced 6" or more apart.

Note:

1. When development length is not specified on the Plans, the above dimensions shall be used.

2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.

3. These development lengths only apply where the General Notes indicate "Reinforcing Steel Design, fs= 24,000 p.s.i."

CASE NO.1 - For bars coated with epoxy with cover less than 3 times the bar diameter or clear spacing between bars less than 6 times the bar diameter.

APPROVAL	
<i>E.S. Faden</i>	DIRECTOR
OFFICE OF STRUCTURES	
DATE: 2/2/90	
REVISIONS	
SHA	FHWA
11-23-93	.
1-22-01	.
9-20-05	.
12-4-07	.

FHWA APPROVAL
DATE:

STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES	
DEVELOPMENT LENGTH DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.6 (4500 P.S.I.) CONCRETE EPOXY COATED REINFORCING CASE NO.1	
STANDARD NO. M(6.16)-90-216	SHEET 2 OF 3

MISCELLANEOUS